

(19) World Intellectual Property Organization  
International Bureau(43) International Publication Date  
28 December 2000 (28.12.2000)

PCT

(10) International Publication Number  
WO 00/79451 A1(51) International Patent Classification<sup>7</sup>: G06F 17/60NY 10562 (US). UNGER, Paul, J.; 601 West 110th Street,  
New York, NY 10025 (US).

(21) International Application Number: PCT/US00/16567

(74) Agents: LIPSITZ, Randy et al.; Kramer Levin Naftalis  
& Frankel LLP, 919 Third Avenue, New York, NY 10022  
(US).

(22) International Filing Date: 15 June 2000 (15.06.2000)

(25) Filing Language: English

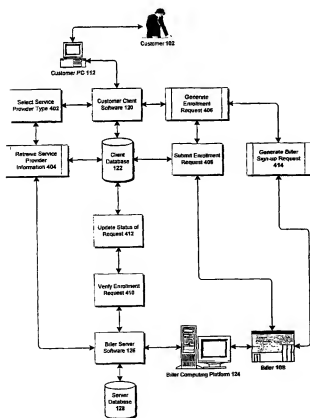
(81) Designated States (national): AE, AL, AM, AT, AU, AZ,  
BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK,  
DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL,  
IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU,  
LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT,  
RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA,  
UG, UZ, VN, YU, ZA, ZW.

(26) Publication Language: English

(30) Priority Data:  
09/334,876 17 June 1999 (17.06.1999) US(71) Applicant: MOBIUS MANAGEMENT SYSTEMS,  
INC. [—/US]; 120 Old Post Road, Rye, NY 10580 (US).(72) Inventors: GROSS, Mitchell, I.; 3 Columbus Circle,  
Eastchester, NY 10709 (US). DULYK, William, A.;  
566 Webster Avenue, New Rochelle, NY 10801 (US).  
LAWRENCE, Robert, J.; 15 Yates Avenue, Ossining,(84) Designated States (regional): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian  
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European  
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,  
IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG,  
CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: ELECTRONIC STATEMENT, BILL PRESENTMENT AND PAYMENT SYSTEM AND METHOD



(57) Abstract: An electronic statement, bill presentment and payment system and method includes a customer client software program (120) and client database (112), and a biller server software program (126) and server database (128) connected over an electronic information network. A customer enrolls with a biller by communicating a request between the client and server programs including information about a funding account. The biller confirms customer account information and verifies the funding account and updates the status of the enrollment request to the customer. Electronic bill summary and/or detail information is communicated to or polled from the biller server and consolidated at the customer client software. The customer may then retrieve bill summary and/or detail information and/or communicate payment instructions authorizing an electronic transfer from the funding account to the biller.



**Published:**

— With international search report.

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**ELECTRONIC STATEMENT, BILL PRESENTMENT  
AND PAYMENT SYSTEM AND METHOD**

**CROSS-REFERENCE TO RELATED APPLICATIONS**

This invention claims the benefit of priority from U.S. patent application Serial No. 09/334,876, filed June 17, 1999.

**BACKGROUND OF THE INVENTION**

5           This invention relates generally to a client/server software solution for collecting, summarizing and storing individualized content information and allowing a user of the software to provide a directed response thereto, and, more particularly, for example, to a computerized electronic statement, bill presentment and payment system and a method of presenting bills electronically to a customer and initiating payments and other  
10 instructions by computer.

          While several electronic bill presentment and payment systems have recently been developed, systems which collect and present bill information from individual billers have typically required that the user contact each biller that provides electronic bill presentment and payment services separately to set-up and use such services. These  
15 services have the disadvantage of requiring the user to contact each biller each time bill information is desired and of requiring the user to enter payment account information each time the service is configured. Moreover, the user has the additional difficulty in managing the information and deriving summary information from several related bills (for example, all the bills due for a given month) because the information is not collected in a single  
20 document. Since each biller may use different software and bill formats for presenting electronic bills, the user will have the problem of obtaining and managing several different software programs. There is also the additional difficulty of centrally managing personal assets and cash flow with respect to the user's personal accounts bank and credit and tracking outstanding or paid bills. From the biller's perspective, the biller also has  
25 problems in managing cash flow and accounts receivable with respect to customer payments.

More recently, electronic bill presentment and payment services have been provided by third party consolidators. Various billers format electronic bills according to a standard prescribed by the consolidator and send the information to the consolidator. A user connects to the consolidator to review the current bills and provide instructions for payment. The consolidator will typically process the payment instructions from the user on behalf of all of the billers.

In order for such systems to be useful, a wide variety of billers must agree to provide bills in the prescribed format to a single consolidator. In that way, a user would need to only connect with a single consolidator in order to review all or many of his bills and/or provide payment instructions. However, such systems have the problem that the user may not wish the third party consolidator to have access to all of the information contained in that user's electronic bills. Additionally, in all likelihood, there will inevitably be several consolidators competing to sign up billers and users, each one having a sub-set of a user's billers. In such a situation, it would not be efficient for the user to connect to the several consolidators needed to retrieve and pay all of his bills and manage his information in one program.

In any electronic bill presentment and payment system, it is generally difficult and expensive to collect the bill detail information and format it in a manner consistent with the consolidators. Furthermore, individual billers may have information to send to customers that does not fit in with a consolidator's presentment format.

What is desired is an electronic statement, bill presentment and payment system and method that overcomes the limitations of the prior art. A system and method is desired which would permit electronic statement, bill presentment and payment services to be provided to a user by a wide variety of billers in which the user can centrally manage all of his electronic statements, bills, and in which no third party consolidator is used, and in which such services are provided in a secure manner assuring the user's privacy.

SUMMARY OF THE INVENTION

Generally speaking, in accordance with the present invention, an electronic individualized content presentment and directed response system is provided. The system advantageously provides for a method of presenting electronic content individualized for a specific user from several content providers and allows that user to initiate directed instructions to each content provider responsive to the content. The system is constructed and arranged to assure a secure and private connection, and transfer of information directly between a content provider and an individual recipient.

In a preferred embodiment directed to an electronic statement, bill presentment and payment system, computer software allows a customer to view statements and bills from multiple billers and make payments to the billers using a personal computer, Web TV, personal digital assistant or the like connected to a digital electronic or global communications network. The software eliminates the need for both the customer and the biller to sign up with a consolidator, and allows the biller and the customer to interact directly.

The system of the invention comprises an end user electronic desktop application (the client) which communicates over, for example, the Internet with one or more server applications (each a server) associated with each content provider. While the detailed discussion of a preferred embodiment includes a description of the system and method being advantageously used for statement and bill presentment and payment services, other interactive and individualized communications between a user and a content provider are contemplated within the scope of the invention and will be separately described as appropriate.

A preferred embodiment of the method and system for electronic statement, bill presentment and payment may provide the following services among others:

Billor account and funding account maintenance. This includes enrollment with a biller for statement and bill presentment and payment as well as management of changes to the biller account information and/or funding account information.

Statement notification. Notification may be provided to the customer that new bills or statements are available from a biller. This may be by an email from the biller or by an indication maintained at the client, such as a time or date trigger or pursuant to a pre-defined billing cycle.

5           Retrieval and archival of statement data. In response to statement notifications sent from billers, or otherwise indicated at the client, such as on the billing cycle day, the client retrieves the statement summary and detail data from the biller and archives this data on the user's computer.

10           Review statements account activity/status. The client application provides a GUI (graphical user interface) from which the user can access a consolidated summary of bills, statements or other account activity from all billers. The summary and detail information may include various types of content retrieved from providers of individualized content such as statements, bills, notifications, invoices, bank/brokerage statements, other account statements, voting proxy requests, insurance policy proposals, loan proposals,  
15           magazine articles, and the like. The summary view may also include advertising provided from the content providers or other sources. Where several content providers include advertising and the like, the client may rotate each ad into a banner or other location on the GUI or otherwise display such ads. Furthermore, when the user requests and/or views detail information, the client may display that content provider's ads.

20           Directed Response. From the summary screen, the user may view the detail information, or provide directed instruction back to the provider. For example, for statements and bills, the user may initiate payment instructions. The client also allows the user to track the status of account activity such as enrollment and payment requests.

Polling. The client may automatically check for new statement and bill summary and detail information as directed by the user, or, for example, at every billing cycle. Intelligent polling based on a billing cycle or the like will help to prevent overloading at the biller's server which might otherwise be caused by too much electronic communications traffic.

Bill Payment. From the summary screen the user may send payment instructions to all billers, for example, for whom bills are due. The GUI will allow paying all current bills with a single mouse click. Additional payment options, such as payments of the minimum amount due, partial payments, pre-payments or automatically scheduled payments such as recurring payments are also available.

Account Receivable Update. Statement providers and billers may use information about pending payments and future scheduled payments to update their accounts receivable data.

Accordingly, it is an object of the present invention to provide an improved electronic individualized content presentment and directed response system and method that allows for the collection and summary of individualized content from several unrelated content providers and does not require a third party consolidator.

Another object of the invention is to provide an improved electronic individualized content presentment and directed response system and method capable of providing a secure connection between a content provider and a user for transferring individualized content and/or directed response information.

A further object of the invention is to provide an improved electronic individualized content presentment and directed response system and method used for electronic statement, bill presentment and payment services that allows for the collection and summary of statements and bills from several unrelated billers and does not require a third party consolidator.

Still another object of the invention is to provide an improved electronic bill presentment and payment system capable of providing a secure connection between a biller and a customer for transferring statement, bill and/or payment instruction information.

Still a further object of the invention is to provide a means for minimizing the costs associated with processing statements and bills by transmitting statements and bills and receiving payment instructions electronically.

Yet another object of the invention is to provide for customer desktop archiving of electronic documents including bills and bill detail information for review by the user or for use by an intelligent agent in analyzing such data.

Yet a further object of the invention is to provide a customer desktop data source for use by external software programs and intelligent agents.

Still yet another object of the present invention is to permit a user to enter funding account information only once and use it to pay several billers, and to allow use of multiple funding accounts with respect to any one biller, all while maintaining the privacy and security of the funding account by storing the information on the user's computing platform.

Still other objects and advantages of the invention will in part be obvious and will in part be apparent from the specification and drawings.

The invention accordingly comprises the several steps and the relation of one or more of such steps with respect to each of the others, and the system embodying features of construction, combinations of elements, and arrangement of components which are adapted to effect such steps, all as exemplified in the following detailed disclosure of such steps and system as hereinafter set forth, and the scope of the invention will be indicated in the claims.

#### BRIEF DESCRIPTION OF THE DRAWINGS

For a fuller understanding of the invention, reference is had to the following description taken in connection with the accompanying drawings, in which:



Figure 1 is a schematic overview of certain physical and logical components of an electronic bill presentment and payment system constructed and arranged in accordance with a preferred embodiment of the present invention;

Figure 2 is a schematic overview of user profile management functions constructed and arranged in accordance with a preferred embodiment of the present invention;

Figure 3 is a schematic overview of funding account management functions constructed and arranged in accordance with a preferred embodiment of the present invention;

Figure 4 is a schematic overview of enrollment functions constructed and arranged in accordance with a preferred embodiment of the present invention;

Figure 5 is a schematic overview of several functions of the client's software constructed and arranged in accordance with a preferred embodiment of the present invention; and

Figure 6 is a schematic overview of several functions of the server software constructed and arranged in accordance with a preferred embodiment of the present invention.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The following terms are defined for convenience. Where the content suggests a different meaning, these definitions are not intended to be limiting.

Client: This is the software that runs on a user's computing platform, which platform may include a personal computer (PC), a workstation on a network, a personal digital assistant (PDA), Web TV or the like. These application(s) communicate with servers to enroll for services such as statement and bill presentment and payment, to retrieve information such as statements and bills and to submit requests such as payment and account modification requests. The client stores and maintains appropriate retrieved information at the user's computing platform. The client software provides a GUI with

consolidated views of all information and customer activity. Typically, the GUI will run as a standalone application. Alternatively, the GUI may run as a browser plug-in.

Advantageously, the client itself allows an interface to intelligent agents, such as plug-in applications, which access and analyze the information stored by the client. One example of an intelligent agent is an application which analyzes bill payment history in the client database and makes recommendations for credit products (such as a home equity loan or a credit card) based on the information analyzed. Another example of an intelligent agent is an application which analyzes stock portfolio transaction history and makes recommendations with respect thereto.

Customer: This is a person who uses the client applications to access services such as bill presentment and payment. This is also referred to as a user or subscriber.

Server: Any device or system which stores, processes and provides data to another device or system. For example, the server may be computer software and hardware used by the biller or other content provider and provides the connection to the client for accessing services such as statement or bill presentment and payment. There may be separate modules for different services, such as statement or bill presentment, as well as a separate payment module to process payments for these services. This allows the biller to process payments at a different site from the one which provides presentment services, among other things, and adds an additional level of security and privacy to the transactions.

Content Provider: This is an entity that provides goods or services or content to the customer, and from which the customer receives content, such as statements, bills and the like, and to which payments or other directed responses may be made. A preferred embodiment of the invention is geared toward consolidation at the user desktop of statements, bills and other related financial data such as bank account statements and/or voting proxy requests to provide a desktop financial consolidation portal. In other embodiments, any information and/or content, such as pay-per-view content can be transmitted. This is also called a service provider, or in some embodiments, a biller.

Electronic Bill Detail Server (EBD): A system or device associated with the biller that contains and provides statement or bill detail and summary information.

Reference is first made to Figure 1 of the drawings, which shows in overview a schematic block diagram of certain physical and logical components of an electronic statement, bill presentment and payment system in accordance with a preferred embodiment of the present invention. The electronic statement, bill presentment and payment system of the invention comprises a client/server software application running over various inter-networked computers as shown.

A customer 102 has an account at a customer financial institution 104 to which customer 102 may make deposits and withdrawals of funds. Customer 102 may also authorize customer financial institution 104 to electronically transfer funds from a funding account 106 directly to another account in order to provide payment to the owner of that other account.

Customer 102 may also make purchases of goods or services from a biller 108 that will use the system of the invention to electronically present statements and bills for that purchase to customer 102 and receive payment instructions. Biller 108 may also be any entity which wishes to present a bill or other statement to customer 102 and/or receive payment or other responses from customer 102 with respect to the bill or statement. For example, biller 108 may be a credit card company presenting monthly statements to, and receiving payment authorizations from customer 102, or biller 108 may be a financial account administrator or other content provider presenting quarterly reports, voting proxy requests, insurance policy proposals, loan proposals or other individualized financial information to, and receiving buy/sell, voting, acceptance or refusal of proposals or other responsive instructions from customer 102 with respect to the individualized information.

Biller 108 has an account at a biller financial institution 110 to which biller 108 may make deposits and withdrawals of funds. Alternatively, biller 108 may itself be a financial institution, in which case biller 108 performs the functions of biller financial institution 110 for the purposes of this discussion. Customer financial institution 104 and biller financial institution 110 will typically be connected through an electronic network for

transferring funds among financial institutions, such as the automated clearinghouse network (ACH), the Society For Worldwide Interbank Financial Transactions (SWIFT) network, or Clearinghouse for Interbank Payment Systems (CHIPS) network or other electronic cash systems, such as E-cash or Netcash, or through other payment mechanisms  
5 such as the Automated Teller Machine (ATM) network, and the like. The financial institution network allows customer financial institution 104 and biller financial institution 110 to transfer funds between them on behalf of customer 102 and biller 108, respectively.

Customer 102 will typically use customer PC 112 or other computing platform to connect to a global electronic network, such as the Internet 114, using any  
10 communications means, such as a modem and dial-up account, or an ISDN line or other network connection. Alternatively, customer 102 may connect to Internet 114 by other means, such as Web TV, a network card or other communications interface. Customer 102 will then typically establish a connection with a directory site 116 containing a directory of billers, typically by using HTTP to view a page maintained at directory site 116.  
15 Alternatively, a telnet connection or ftp connection may be established between customer PC 112 and directory site 116. Directory site 116 will typically include a directory database 118 containing data tables with information about various billers accessible by the system of the invention.

Customer 102 will then have the opportunity to obtain the client portion of  
20 the software, the customer client software 120, providing access to the system of the invention. Typically, this will be by downloading customer client software 120 to customer PC 112 directly from directory site 116. Alternatively, customer 102 may provide information to allow customer client software 120 to be delivered to customer 102 through other means, such as by regular mail. Or, customer 102 may obtain customer client  
25 software 120 directly from biller 108 or by buying it or receiving it for free at a retail outlet or as a promotional item.

Once obtained, customer 102 can install customer client software 120 on customer PC 112 or other computing platform. Customer client software 120 includes a client database 122 which maintains various database tables containing profile information

about customer 102, payment instruction information for funding account 106 related to customer financial institution 104, biller account information related to biller 108, transaction status information, records of completed transactions and intelligent agents and information related thereto, and other information deemed necessary or appropriate for the functions provided. Client database 122 may include additional information used by customer client software 120, or, alternatively, customer client software 120 may receive information needed from any other source, such as by an ODBC, OLE or other API to that source.

Customer client software 120 provides the means for performing the various processes invoked by customer 102 when using the electronic statement, bill presentment and payment system of the invention. As shown with reference to Figure 5, such processes include, initiating biller activation 502 in order to establish instructions and a connection with biller 108 for being presented with electronic statements and bills, activating payment account 504 in order to establish instructions for paying bills from funding account 106, debiting payment account 506 in order to pay bills to biller 108 from funding account 106 at customer financial institution 104, polling for current statement from billers 508 in order to prepare a summary of current statements 510 to show customer 102 outstanding bill amounts and provide the opportunity to retrieve detailed bills and/or pay outstanding amounts or a portion thereof in response thereto; and analyzing or reviewing historical or archival data 512 from client database 122.

Biller 108 will typically use biller computing platform 124 to run the server portion of the software, the biller server software 126, providing access to the system of the invention. Biller server software 126 includes a server database 128 which maintains various database tables containing profile information about biller 108, customer account information about customer 102 and statement and bill summary information. Statement and summary information is typically obtained by querying a biller electronic bill detail (EBD) server 130. Biller 108 can also directly access and manage biller EBD server 130 through biller computing platform 124.

Biller 108 will also typically maintain a biller Internet site 132 to provide information to prospective customers and current customers. Biller 108 may also allow customer 102 access to bill detail information received from biller EBD server 130 through biller Internet site 132. In order to protect the privacy of customer 102, access to bill detail information from biller EBD server 130 will typically be restricted and require password access.

Biller server software 126 is generally used by biller 108 to accomplish several processes related to the electronic bill presentment and payment system of the invention. As shown with reference to Figure 6, such processes include, at least, validating customer account 602 in response to a request from customer 102 (through customer client software 120 performing initialize biller activation 502 process), validating customer payment account 604 which is related to funding account 106 at customer financial institution 104 in response to a request from customer 102 (through customer client software 120 performing the activate payment account 504 process), processing payments in real-time 606, constructing an ACH request 608 or the like which is forwarded to biller financial institution 110 for processing of payment instructions and updating accounts receivable 610 for biller 108 from the payment information. Alternatively, several of these process may be provided by a separate payment server 134 when biller 108 does not act as its own payment processor, as shown in Figure 1.

Biller server software 126 may include functionality for processing payments from customer 102 as thus described. Alternatively, payment server 134 may process payments from customer 102 and advise of such payment to biller server software 126. In this way, biller 108 does not have to directly process payments, or can process payments on payment server 134 which is separate from biller server software 126 in order to enhance security and privacy of those payments. Additionally, because payment server 134 may be a separate entity from biller 108, and may process payments for several entities, customer 102 may more easily make payment instructions by having customer client software 120 contact payment server 134 directly.

Payment server 134 forwards the payment instructions to customer financial institution 104 and biller financial institution 110 for settlement, and notifies biller server software 126 of such transaction. Once the transaction is settled, biller financial institution 110 typically informs biller 108 and biller 108 can reconcile the payment with the notice provided to biller server software 126 by payment server 134.

In this way, the client/server software for electronic bill presentment and payment allows customer 102 to receive bills electronically from biller 108 and pay them electronically by providing instructions to authorize an electronic transfer of funds from customer financial institution 104 to biller financial institution 110.

Having thus described in overview the system for electronic statement, bill presentment and payment of the invention, certain detailed procedures of the invention will now be described.

Software Installation: Customer client software 120 may typically be installed on customer PC 112 or other computing platform in any conventional manner. For example, customer 102 can install customer client software 120 from a CD or downloaded from directory site 116 or biller Internet site 132. Branded versions of the software may also be distributed which include a pre-loaded client database 122 having account information for a specific customer 102 and biller activation information for a specific biller 108.

Biller server software 126 is typically distributed on a CD to biller 108 and may be installed and maintained by biller 108 on biller computing platform 124 in any conventional manner.

Profile Management: Establishing and managing a user profile for customer 102 is described with respect to Figure 2, and typically involves the following processes.

User Profile Definition. Customer client software 120 provides customer 102 with a procedure to define a new user profile 202. Procedure 202 typically includes personal information such as name, address, email address, account numbers and the like. The information in the user profile is stored in client database 122 on the client processor

platform and is therefore available to be sent to biller 108 to identify customer 102 when enrolling for electronic statement, bill presentment and payment services.

User Profile Changes. If a user profile is to be changed, customer client software 120 provides customer 102 with a procedure to modify an existing user profile 204. Procedure 204 retrieves the existing user profile 206 from client database 122 and allows customer 102 to modify the profile information 208. The modified information in the user profile is stored in client database 122. Customer client software 120 may then optionally or automatically notify all billers 210 from whom customer 102 has requested bills. The notification may be accomplished by sending an email message to biller 108, or customer client software 120 can submit a request to biller server software 126 to modify server database 128 the next time customer 102 uses the system to connect to biller server software 126. For example, customer 102 may use customer client software 120 to change the email address in the user profile, then customer client software 120 can automatically notify all billers with whom customer 102 has enrolled for bill presentment and payment services of the change. Alternatively, customer 102 may contact biller 108 directly or by other means.

Funding Account: Establishing funding account 106 for customer 102 and using it within the system of the invention is described with respect to Figure 3, and typically involves the following processes. The present invention allows customer 102 to register funding account 106 once and apply funding account 106 to multiple billers. Alternatively, customer 102 can have multiple funding accounts that are applicable to biller 108.

Funding Account Definition. Customer client software 120 provides customer 102 with a procedure to define a funding account information 302 used to pay biller 108 who accepts electronically initiated payment requests. This includes information with respect to funding account 106 at customer financial institution 104, such as the transit ABA number. Various types of accounts such as checking, savings, credit card, etc. may be defined as funding account 106. The funding account information is sent to biller server



software 126 and is stored in server database 128 when enrolling for services for which electronically initiated payments are accepted.

Funding Account Verification. Information regarding funding account 106 is encrypted in a step of encrypting funding account information 304 and is stored in client database 122 in encrypted format. Included with funding account 106 stored in client database 122 will preferably be a Payment Certification String (PCS) (as described further below) which indicates that funding account 106 has been verified. The PCS is available when customer 102 enrolls for services with biller 108.

The first biller 108 to whom an enrollment request for payment services is issued is typically responsible for verifying funding account 106 in a manner consistent with the financial transaction network used to process payments, and generating the PCS 314. The PCS is then included with the encrypted funding account information. The PCS can be used by biller 108 as assurance that funding account 106 is valid. However, a biller 108 may decide to do its own verification of funding account 106 regardless of whether the PCS indicates that verification has already been done. In such a case, biller 108 may provide an additional PCS for funding account 106.

Thus, any later enrollment request includes validated funding account information that is sent to each biller 108 with whom customer 102 is enrolling for payment services.

Alternatively, a central payment verification authority, which may be associated with directory site 116, may be used to verify funding account 106 and return the PCS at the time funding account 106 is defined in customer client software 120. The verification information may also be stored in directory database 118 associated with directory site 116, and accessed through directory site 116 by any biller 108 who seeks verification of a specific funding account 106 for a specific customer 102.

Funding Account Changes. If funding account 106 is to be changed, customer client software 120 provides customer 102 with a procedure to modify an existing funding account 306. Procedure 306 retrieves the existing funding account representation

308 from client database 122 and allows customer 102 to modify the funding account information 310. The modified information is stored in client database 122. Customer client software 120 may then optionally or automatically notify all billers 312 from whom customer 102 has enrolled for payment with funding account 106. The notification may be accomplished by sending an email message to biller 108, or customer client software 120 can directly modify server database 128 by sending a message to biller server software 126 the next time customer 102 uses the system to connect to biller server software 126. Alternatively, the message may be sent to payment server software 150 which sends a message to biller server software 126. Customer client software 120 and biller server software 126 also communicate with one another to determine what to do about payment requests submitted before the change to funding account 106 has been processed.

Enrollment Requests: Enrollment for electronic presentment of individualized content for customer 102 is described with respect to Figure 4, and typically involves the following processes.

Service Type. When customer 102 enrolls for a service, it is necessary to define the type of service (i.e. bill presentment and payment, brokerage, subscribed content, and the like) in a step of selecting the service provider type 402. Information on the type of service is stored in client database 122.

Service Provider Directory. Once the service type has been selected, customer 102 must select the service provider or biller 108. At this point, customer 102 typically connects to directory site 116 and is presented with a list of available service providers for the type of service specified which is retrieved from directory database 118. Alternatively, the list of providers may be retrieved from client database 122 if such information has been pre-loaded. Customer client software 120 may also update the service provider list in client database 122 periodically and may also be updated using information from directory site 116 or directly from biller 108.

When accessing directory site 116, each service provider must have a name which customer 102 can use to identify the service providers to enroll with. For example, in the case of bill presentment and payment services, this is a list of each biller 108. While

the billing companies may themselves contract bill presentment and payment services to an outside provider of these services, the names in directory database 118 are the names of each actual biller 108 and not the name of the company contracted by biller 108 to provide these services. In cases where there are payments associated with the service requested, there may also be a separate payment server 134. However, from the perspective of customer 102, the service provider is the biller and the fact that biller 108 has contracted to have payment services provided by a separate payment server 134 is transparent.

Once customer 102 has selected a service provider, customer client software 120 retrieves the service provider information 404 and this additional information is stored in client database 122. The information includes how to communicate with the service provider (typically biller 108) when requesting services or paying bills, the frequency of bills or statements, a billing cycle indication and the like. This typically also includes information such as the web site of the service provider. The fact that the services may be provided by another company on behalf of biller 108 may also be reflected in this information.

When customer 102 cannot find a content provider in biller directory 148 or that content provider is listed but is not currently providing electronic presentment of statements and bills nor receiving electronic payments through the system of the invention, customer 102 can contact biller 108 directly to obtain the information. Alternatively, directory site 116 may send biller 108 an email requesting that they provide the service to their customers. Also, an email message may be automatically generated at the customer's computing platform for sending to the biller in a procedure of generating a biller sign-up request 414. The email address may be entered manually by customer 102 or retrieved from an electronic business directory (electronic yellow pages).

Specification of Content Provider Account. Customer 102 must provide information to identify an account number which has been opened with biller 108. Initially, this may be handled by having customer 102 enter the account number during the generate enrollment request process 406. Alternatively, this could be handled by linking to biller Internet site 132 to retrieve a list of accounts for customer 102. Additionally, enrollment

request process 406 may include information required to verify the account at biller 108 (i.e. mother's maiden name, SS#, and the like).

Specification of Funding Account. If there are payments associated with the service for which customer 102 is enrolling, then information on funding account 106 is also provided during enrollment request process 406. Customer client software 120 will preferably only allow those types of accounts (bank account, credit card, etc.) for which biller 108 will accept payment.

Submitting the Enrollment Request(s). A procedure for submitting an enrollment request 408 is initiated from customer client software 120 after selecting a service type, service provider, service provider account number and funding account, as described above. The following occurs once this information has been provided:

1) The enrollment request (including the service provider account) for the service requested is recorded in client database 122 with a status of pending.

2) The enrollment request is forwarded to biller 108. The request includes the service type, service provider name, and the service provider account number as well as the user profile of customer 102 who submitted the enrollment request. The service enrollment request status remains as pending until the service provider has processed the request and verified the service provider account number.

3) If the service requested requires payments, then a separate enrollment request for payment services is sent to biller 108 (or payment server 134 selected by the service provider in the case where biller 108 uses a separate payment server 134). The request includes funding account information (including the PCS if available) as well as the user profile. The service enrollment request status remains as pending until the service provider has processed the request and verified the service provider account number.

The fact that separate requests are submitted for presentment services and payment services is transparent to customer 102. This is done to accommodate the situation where biller 108 has different web sites for presentment and payment (or has contracted out payment services to a separate payment server 134).

Biller server software 126 abstracts the actual enrollment message so that any message format can be used. A variety of request/response message formats can be supported such as IFX, OFX, and the like for bill presentment and payment services.

Provider Verification. Biller server software 126 at biller 108 receives enrollment requests from customer client software 120 to activate services at that service provider. Biller server software 126 records the enrollment request in server database 128 with a status of processing. To complete processing of the enrollment request for biller 108, it is necessary for biller 108 to verify the enrollment request 410 and the identity of customer 102 requesting services. Service provider account verification is likely to vary quite widely from one service provider to another. Biller server software 126 will include a set of interfaces to a service provider process which verify the service provider account as well as the overall request to activate services.

An API to a process provided by biller 108 which verifies the account number and the overall enrollment request may be defined by biller server software 126. This allows biller server software 126 at biller 108 to verify the enrollment request in real time. Biller server software 126 will update the status of the enrollment request 412 in server database 128 based on the result returned by verify enrollment request process 410. Biller server software 126 will also return the result of the enrollment request to customer client software 120.

If biller 108 is unable to verify the account and enrollment request in real time, then an API is supplied for a batch verification process. API functions are provided to retrieve pending enrollment requests from server database 128, and to update the status of the enrollment request in the server database 128. Biller 108 may also wish to send an email notification upon receipt or verification of an enrollment request. This may preferably be accomplished directly from the applications described above which use the API. In addition, biller server software 126 and/or API may preferably allow biller 108 to return an indication that an email should be sent to customer 102 when certain events such, as the receipt of an enrollment request or verification of an enrollment request, occur.

Funding Account Verification. Biller server software 126 generally includes a payment module at biller 108 (or service provider designated payment server 134) which receives enrollment requests from customer client software 120 to activate payment services. Biller server software 126 records the enrollment request in server database 128 with a status of processing. To complete processing of the enrollment request, it is necessary for biller 108 to verify the account and identity of customer 102 requesting payment services. Verification of payment accounts is likely to vary somewhat from one service provider to another, although probably not as much as the verification of service provider accounts. As a result, biller server software 126 will also define a set of interfaces to a service provider process which verifies the funding account as well as the overall request to activate payment services. In addition, since many funding accounts may be verified via completed ACH transactions (or other completed electronic fund transfer transactions), biller server software 126 payment module may include a default application for the batch verification of funding accounts using ACH transactions.

An API to a process provided by biller 108, which verifies funding account 106 and the overall enrollment request, will be defined by biller server software 126. This allows biller server software 126 at the service provider to verify the payment enrollment request in real time. Default logic will be provided by biller server 130 to recognize a PCS returned from the funding account verification performed by another service provider. If biller 108 wishes to ignore the PCS, or has another mechanism to verify the funding account in real time (perhaps via the ATM network) or simply prefers to run its own batch process, then the default logic provided with biller server software 126 can be replaced.

Biller server software 126 will update the status of the enrollment request in server database 128 based on the result returned by the service provider verification logic. Biller server software 126 will also return the result of the enrollment request to customer client software 120.

If biller 108 is unable to verify funding account 106 and enrollment request in real time, then an API is supplied for a batch verification process. API functions are provided to retrieve pending payment enrollment requests from server database 128, and to

update the status of the enrollment request in server database 128. Since it is expected that biller 108 may not be able to verify funding account 106 in real time, a pair of batch funding account verification applications may also be provided with biller server software 126 payment modules. The first batch funding account verification application retrieves all pending payment enrollment requests and, for example, may write an ACH pre-note transaction in the amount of \$0.00 to verify funding account 106. The second batch funding account verification application reads a result file returned from the ACH network and updates the enrollment requests in server database 128 accordingly.

Billers who do not wish to use the provided batch verification applications may write their own applications which use the API to read pending enrollment requests, verify the enrollment using logic provided by the service provider, and then use the API to update the pending enrollment requests.

Tracking enrollment status. After the service and payment enrollment requests have been submitted from customer client software 120 to biller server software 126 and processed by biller server software 126, it is necessary for customer client software 120 to update the status of the enrollment request in client database 122. There are several methods in which this may be accomplished.

Real Time Enrollment Verification: If biller 108 is capable of verifying the service provider account and/or funding account 106 using a real time biller server plug-in, then the response returned to customer client software 120 for the enrollment request contains the result of the account verification/enrollment request. Otherwise, biller server software 126 returns a status of processing for the enrollment request(s). In this case it is also necessary for customer client software 120 to either be notified that the enrollment has been processed, or to periodically request the status of the enrollment request from the service provider to determine when and if the enrollment request is verified or both.

Polling for Enrollment Status: Customer client software 120 periodically may query biller server software 126 at any biller 108 for which there are pending enrollment requests. Customer client software 120 will update the client database 122 on customer PC 112 to reflect the status of the enrollment request returned from biller server

software 126. Customer client software 120 queries for enrollment status generally at least each time customer 102 logs in to customer client software 120. The determination of whether to poll a given service provider will typically be based upon pending enrollment requests which customer client software 120 retrieves from client database 122. In addition, customer client software 120 may support explicit requests from customer 102 to update the status of pending enrollment requests.

Email Notification from Service Provider: Another approach for notifying customer client software 120 that the enrollment request has been processed is to have biller 108 send an email to customer 102 when the enrollment has been processed. The email may contain a shortcut which invokes customer client software 130. If the email includes all the information necessary to update the status of the enrollment, then this data can also be passed to customer client software 120 when it is invoked from the email. If the email does not include information necessary to update the status, then customer client software 120 communicates with biller server software 126 at biller 108 to retrieve the status of the enrollment. In this case the email would need to contain information, which when passed to customer client software 120, enable it to access biller 108 biller server software 126. Another variation of the email notification approach would be to have customer client software 120 look for emails from specific billers in the Inbox of customer 102 email system.

Enrollment Extensions: Several varieties and uses of the enrollment process are contemplated within the scope of the invention. Several examples are described below.

Traditional Enrollment. Traditional Enrollment refers to the case where the enrollment is not initiated electronically. For example, biller 108 may include an insert with a printed bill that says "Check this box if you never want to receive another bill in the mail again!". In this scenario, electronic enrollment is initiated on behalf of customer 102 by a customer service representative of biller 108. The main difference from the perspective of the software between traditional enrollment and electronic customer initiated enrollment is that customer client software 130 is unaware of the traditional enrollment request. This is addressed by having an option in the GUI in which customer 102 can



record the fact there is a traditional enrollment request pending with biller 108. When customer client software 130 updates the status of the traditional enrollment request it also needs to "import" information recorded during the traditional enrollment, such as customer 102 service provider account number and funding account 106 information which was  
5 provided to the customer service representative.

Person to Person. Another possible use for the system and method of the invention is to facilitate person to person transactions such as paying the rent. In this case it would not be feasible to list every person with a checking account in the list of Service Providers. In addition, it is not likely that the payee (the landlord in this example) will have  
10 a server to initiate and send a rent bill to the payer (the tenant).

In the case where the payment is not sent in response to an electronic bill it is still desirable for the payer to have a record of what the payment was for. This can be handled by having the Client create the statement (i.e. a rent invoice).

These types of transactions may be handled in one of the following manners.

1. The payee biller 108 gives the payer customer 102 information about the  
15 payment account (e.g., biller financial institution 110). Customer 102 then defines biller 108 to customer client software 120 and initiates payment instructions from customer client software 120 to the biller server software 126.

2. The payee biller 108 signs up with a payment processing service to  
20 receive payments and provides payment account information at biller financial institution 110 to the service provider. The payer customer 102 then connects to the payment processing service to submit payments by selecting biller 108 as the recipient of the payments and by providing funding account information 146 and customer account information. This approach eliminates the need for customer 102 and biller 108 to  
25 exchange payment account information directly.

Elimination of Printed Statements. Once customer 102 has enrolled for electronic statement delivery, it is no longer necessary to receive printed statements. As a result, biller 108 can leverage the enrollment process to also disable printing paper

statements for those customers who have enrolled for electronic bill presentment services. This may be accomplished in several manners. One is to have biller server software 126 account verification logic provide a notification to biller 108 statement generation process. Another alternative is to have the statement provider application at biller 108 retrieve the enrolled users list from server database 128 using an API.

Content Management and Retrieval: Content management and retrieval of individualized content for customer 102 and directed responses thereto are now described, and typically involves the following processes.

Content Provider Summary Management. Biller server software 126 maintains and provides access to statement summary data in support of bill presentment services. An API function may import statement summary data into server database 128. Summary data may be retrieved in other ways as well. Biller server software 126 includes auxiliary applications which read files containing statement summary data in common industry standard formats (IFX, OFX, CheckFree, and the like) and use the API to import statement summary data into server database 128.

In addition, an API function is provided to both export and delete statement summary information. These API functions make possible support for the backup and deletion of expired statement summary data in server database 128. Biller server software 126 may also include applications which use these API functions for maintenance of server database 128. These applications may be controlled by configuration options, such as the number of days to retain statement summary information and the like. Another option for the statement summary backup application would be to archive expired statement summary data in a document archive system, to provide access to this historical data even after it is deleted from server database 128.

Content for New Subscribers. The enrollment request process typically returns the date when content will be available for newly enrolled subscribers. In cases where new content cannot be retrieved until the next statement cycle, the enrollment result will indicate the next date when electronic statements are available for the newly enrolled user.

To make content available for newly enrolled users, it is necessary to either import content summary information into server database 128 or to have a plug-in which provides the content summary information by analyzing the source of the data. One approach for importing content summary for newly enrolled users is to first export new enrollments to an external application/file. The external application then retrieves statement content for newly enrolled users and calls the API to import the content summary into server database 128.

New Content Notification. Once a biller 108 has new content available for enrolled customer 102, they may wish to send an email notification to customer 102. This can also be accomplished by a plug-in or option to the application which imports new statement summary information into server database 128. Alternatively, a separate application processes the statement summary file and sends emails to customer 102. A third option would be to have an application which calls the API to access new statement summary data in server database 128 and sends emails to each customer 102 in the list.

Content Retrieval. Once the new content is available at biller 108 it is necessary for customer 102 to retrieve this information and store it at customer client software 120. Customer client software 120 first receives content summary information which is stored in client database 122 on customer PC 112. If necessary, customer client software 120 retrieves statement detail information which may also be stored in client database 122; statement detail is described in more detail later. In order to retrieve new content, customer client software 120 needs to be aware that new content exists; there are several methods in which customer client software 120 may retrieve new content.

Polling for New Content: Customer client software 120 can query biller server software 126 to request new statements. The determination of which service providers to poll will typically be defined in client database 122. This information may be in the form of a next statement date returned with the previous statement, a biller 108 or customer 102 defined statement cycle date or billing period, and the like. Customer client software 120 can automatically determine which biller 108 to poll for new content when the user logs in, in a manner similar to the polling for pending enrollment requests. In

addition, customer client software 120 may receive explicit requests to poll for new content issued from customer 102.

Email Notification: Another approach for notifying customer client software 120 of new content is for biller 108 to send an email notification. This would be particularly useful for a biller 108 who provides ad hoc content delivery. The methods for retrieving the new content via an email notification are pretty much the same as for retrieving the status of pending enrollment requests so are not discussed in any more detail here.

Content Summary and Detail: All content returned to customer client software 120 typically has a summary information flag which describes what type of content that has been returned. For certain types of content, the content summary may also include actual data. For example, for bill presentment services, the content summary includes values such as amount due, payment due date, minimum payment due and the like. In addition, customer client software 120 may store content detail in client database 122. Customer client software 120 may also store each new instance of content detail (for example a bank statement) in a separate file on the desktop; the file name containing the content detail is included in the content summary information stored in client database 122. In addition, client database 122 content summary may include information about the type of data in the content detail file. This allows different content providers and billers to provide detail content in whatever format is most convenient. For example, content summary and detail information may be stored in a mark-up language (HTML, XML and the like), a document format (PDF, word processing, spread sheet or the like), print stream formats (Postscript, PCL, AFP and the like), image formats (JPEG, GIF, and the like) or any others. A viewer for the content detail is available to customer client software 120; for example a browser application is invoked by customer client software 120 when viewing HTML content detail.

Service Provider Content History: In some cases it may be desirable for customer client software 120 to retrieve historical data from biller 108. One example would be to recover data that had been lost from client database 122 such as billing and payment

history from a bill presentment and payment provider. Another instance would be a newly enrolled customer 102 of bill presentment services who would like desktop access to account activity which occurred prior to enrolling for these services.

This requires that biller 108 keep electronic archives of content. If biller 108 is managing content themselves, then content for historical data is provided via a plug-in, just as with current content. Biller server software 126 also provides mechanisms to return content history if biller 108 is using a separate software application or outside service to store content. Biller 108 can define rules which instruct biller server software 126 on how to locate both historical summary and detail data in the archives.

One other approach would support the background retrieval of content history into server 132 database. This approach would use the API functions to retrieve pending requests for content history and to import the content summary into server database 128.

Premium Content: In some cases the content provider may require advance payment to access certain premium content. In this case biller server software 126 response to a request for statement information is an indication that payment is required to access the content. The method of payment for accessing the content is determined by biller 108. For example, biller 108 may require immediate payment from customer 102 through customer client software 120. Otherwise, biller 108 may send an indication to customer client software 120 that the customer account at biller 108 will be charged a fee and ask customer 102 to accept these terms in order to access the content.

One example of premium content for a bill presentment provider or biller 108 would be access to statement history. In this case the customer server software 130 could be used to provide access to non-current statements as a premium service. After customer 102 has accepted these charges, biller server software 126 would add an entry to server database 128 which indicates the subscriber has access to the premium content. This content would then be available for a certain period of time after which the record in server database 128 which grants access to the premium content would be removed during server database 128 maintenance/clean up processes.

Interactive Content at biller 108: In addition to content summary and detail information which is stored in client database 122, biller 108 may provide interactive content which is accessed directly at a biller 108 web site. For example, biller 108 could have an interactive statement which is accessed at biller Internet site 132.

5           The foregoing discussion regarding statement summary data and detail content has been illustrated primarily with bill payment and bill presentment services. It can easily be understood, however, that biller server software 126 can be used to store and maintain summary data of other types of content, such as bank account statements, magazine articles reprints, financial information, voting proxy requests, insurance policy  
10       proposals, loan proposals and the like. Service providers who do not wish to maintain statement summary data in server database 128 may provide a plug-in to biller server software 126 which uses the API to retrieve statement summary from the service provider's databases.

Payment Processing: Payment processing between customer 102 and biller  
15       108 is now described, and typically involves the following processes.

Biller server software 106 generally includes a payment module which is used by biller 108 to process payment requests submitted by customer client software 120. Alternatively, a separate payment server 134 may be used. Payment request and payment processing are described below.

20       Payment Requests. There are several methods in which a payment request can be submitted from customer client software 120. In the most common scenario a payment request is submitted to biller 108 or payment server 134 after customer 102 has received and reviewed a bill summary and/or detail. Customer client software 120 preferably provides a "pay all" option in which the subscriber can initiate payment requests  
25       for all bills due with a single mouse click. During the enrollment process, customer 102 may specify a default funding account 106 to be used for payments to biller 108. When customer 102 clicks "pay all" from the GUI, customer client software 120 generates payment requests using the default funding account 106 specified for each biller 108 account. Additional default payment options may also be specified at customer client

software 120 in support of the “pay all” option such as whether to pay the minimum amount due or some other percentage of the bill, whether to pay immediately or to schedule the bill to be paid on or before the due date and so on.

Payments for other service providers who do not send electronic statements can also be defined to customer client software 120 (i.e. paying the rent). In this case it would also be convenient if customer client software 120 could either automatically submit the payment request (i.e. recurring payments scheduled at customer client software 120 instead of at the payment service provider) or to provide some sort of notification that the payment is due. A notification could be handled by having customer client software 120 create a statement on behalf of the service provider. In addition, customer client software 120 provides reminders for payments which are soon coming due. This customer client software 120 feature may also provide a calendar which illustrates when payments are due. Another extension and/or intelligent agent allows access to the data in client database 122 to provide cash flow analysis for customer 102.

Customer client software 120 GUI also provides a “Get bank account balance” option which can be used to access bank account balance information web site of the financial institution which manages funding account 106 to be used for payments.

Payment Request Processing. Biller server software 126 typically includes a payment module at biller 108 (or biller 108 may designate a payment service provider maintaining payment server 134 as discussed below) and receives payment requests from customer client software 120 to activate payment services. Biller server software 126 records the payment request in server database 128 with an appropriate status indicator (Scheduled, Processing, etc.) Biller 108 may also utilize a biller server software 126 plug-in which is invoked when payment requests are received. The payment request plug-in could be used to provide a hook into the payment provider's existing payment/accounts receivable systems. The payment request plug-in could also process the payments in real time if the service provider has access to these capabilities (i.e. through the ATM network).

Biller 108 may also wish to send an email notification to customer 102 upon receipt or processing of a payment request. This could be accomplished via plug-ins to the applications described above which use the API. In addition, the biller server software 126 and/or API could be enhanced to allow biller 108 to return an indication that an email should be sent to customer 102 when certain events, such as the processing of a payment, occur.

As described, biller 108 may handle payment requests internally through functionality in biller server software 126, or biller 108 may use a separate payment server 134. Moreover, biller 108 can out-source payment functions to a third-party who maintains payment server 134. In the case of a separate payment server 134, biller server software 126 communicates with payment server 134 and can then record the payment request in server database 128.

Payment Processing. To process payment requests it is necessary for biller 108 or payment server 134 to submit the payment request to a payment system. The ACH network may be commonly used to process payments involving transfer of funds between customer 102 and customer financial institution 104, biller 108 and biller financial institution 110. As a result, the biller server software 126 payment module or payment server 134 will also define a set of interfaces to access and update payment request information in server database 128. In addition to payment requests explicitly submitted from customer client software 120, the API will also provide access to customer 102 authorized recurring payments which are automatically submitted by biller 108 on behalf of customer 102.

Since it is expected that most payments will involve transferring funds between the bank accounts of customer 102 and biller 108, applications are provided with the payment module to process these payment requests. The first application uses the API to retrieve payment requests (both those initiated explicitly by customer 102 as well as those initiated by biller 108 on behalf of customer 102). An ACH transaction, for example, is generated and written to a file which is later submitted to the ACH network for batch processing. The second application reads the ACH response file returned from the ACH



network and calls the API to update the status of the payment requests. These applications also may invoke a biller 108 payment processing plug-in logic; this allows biller 108 to hook into existing payment and/or accounts receivable systems. In addition, biller 108 may replace the payment processing applications provided with the server payment module with their own applications which use the API to access payment requests and update the status of these requests as a batch process or in real time.

Client Database Import/Export. Customer client software 120 can import and export information from desktop client database 122 to other common formats (text files, HTML, spreadsheet, and the like).

A similar mechanism to the "import" facility in customer client software 120 traditional enrollment process may be used to refresh desktop client database 122. This may be necessary when data in client database 122 has been lost or when customer 102 uses customer client software 130 from more than one computer to keep all of customer 102 desktop client 118 databases on multiple machines in synch.

Customer client software 120 also provides the ability to export data maintained by client database 122 to external files and applications. One use for an export capability would be to export financial information into Personal Finance Manager software such as Quicken and Microsoft Money. Another possible use for exported data is for importing into a cash flow analysis program.

Combining the export and import capabilities allows customer client software 120 to provide client database 122 maintenance capabilities such as backup/restore. This feature could also be useful to synchronize client databases 118 in the scenario where a user has installed customer client software 120 on multiple computers.

In accordance with the foregoing, a system and method for presenting individualized content from one or more content providers to a user and returning instructions directly responsive thereto is provided; and, more particularly, an electronic bill presentment and payment system is provided which allows a user to work directly from his home PC to obtain bills and other information from several billers and to allow

payment of the bills from the user's desktop PC using a single software application. The billing statements and information for each user are aggregated on the user's PC desktop, not through a third party consolidator or other entity, so the user need not be concerned with the biller sharing that user's personal financial information and billing history with an  
5 undesired third party. The system is constructed and arranged to securely and privately allow the user to enroll with each biller and retrieve bill statement details and summary information and provide for payment instructions thereto. Furthermore, a database maintained on the user's PC desktop stores historical data and allows the user to link the stored financial data with a personal finance software program or other analytical tool.

10 The billers are able to efficiently present electronic bills and statements to their customers and automatically process payment instructions without the need of a third party consolidator. Additionally, since payment instructions from customers are received directly by the biller, including future scheduled or periodic payments, cash flow management and analysis for the biller is improved. Furthermore, since the system is  
15 constructed and arranged as a separate server application which imports data from the biller's existing electronic bill information system, the security of that existing system is not compromised and the investment in its development and deployment is maximized. Also, the billers need not be concerned with sharing their sensitive customer information with competitors who may be able to acquire such information from a consolidator.

20 It will thus be seen that the objects set forth above, and those made apparent from the preceding description, are efficiently obtained and, since certain changes may be made in the above construction without departing from the spirit and scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

25 It is also to be understood that the following claims are intended to cover all of the generic and specific features of the invention herein described, and all statements of the scope or the invention which, as a matter of language, might be said to fall therebetween.

## CLAIMS

What is claimed is:

1           1. A computerized system for presenting billing information from a plurality  
2 of billers to a customer and communicating payment instructions from said customer, said  
3 system comprising:

4           a) a plurality of server applications at a plurality of billers, said plurality of  
5 server applications including bill detail information specific to a customer;

6           b) a client application in communication with said plurality of server  
7 applications, said client application operable by said customer and including customer  
8 profile information;

9           c) a bill request directed to a selected biller of said plurality of billers, said  
10 bill request including said customer profile information associated with said selected biller,  
11 said selected biller having a selected server application;

12           d) said client application communicating said bill request to said selected  
13 server application;

14           e) said bill request being processed and generating an individualized bill in  
15 response thereto specific to said customer from said bill detail information at said selected  
16 biller;

17           f) said selected server application communicating said individualized bill to  
18 said client application;

19           g) said client application presenting said individualized bill to said customer;

20           h) said client application receiving payment instructions from said customer;

21           i) said client application communicating a payment message in accordance  
22 with said payment instructions to a predetermined server location; and

23 j) crediting an account at said selected biller after said payment message has  
24 been communicated.

1 2. The computerized system as claimed in claim 1, wherein said bill request  
2 is communicated from said client application to said selected server application over a  
3 global computer network

1 3. The computerized system as claimed in claim 2, wherein said  
2 individualized bill is communicated from said selected server application to said client  
3 application over a global computer network.

1 4. The computerized system as claimed in claim 3, wherein said payment  
2 message is communicated from said client application over a global computer network.

1 5. The computerized system as claimed in claim 4, wherein said  
2 predetermined server location is a payment server application.

1 6. The computerized system as claimed in claim 5, wherein said payment  
2 server application communicates with said selected biller.

1 7. The computerized system as claimed in claim 1, wherein said client  
2 application communicates with at least a second biller from said plurality of billers and  
3 receives a second individualized bill from said second biller.

1 8. The computerized system of claim 1, wherein said bill detail information  
2 includes at least one of a total payment due, a minimum payment due, a payment due date,  
3 an itemized transaction amount and an itemized transaction date.

1 9. The computerized system of claim 1, wherein said customer profile  
2 information includes at least one of a customer name, a customer address, a customer  
3 identification and an account number associated with said selected biller.

1 10. The computerized system of claim 1, wherein said individualized bill is  
2 presented to said customer in summary form.

1 11. The computerized system as claimed in claim 10, wherein additional  
2 individualized bills from other selected billers are presented to said customer.

1 12. The computerized system of claim 1, wherein said payment instructions  
2 include at least one of a payment in full, a minimum payment, a partial payment, a pre-  
3 payment, a scheduled date for payment and a periodic payment.

1 13. The computerized system as claimed in claim 1, wherein said client  
2 application stores selected information regarding said individualized bill.

1 14. The computerized system as claimed in claim 13, wherein said selected  
2 information is in summary form.

1 15. The computerized system as claimed in claim 13, wherein said selected  
2 information is in detail form.

1 16. The computerized system as claimed in claim 13, wherein said selected  
2 information is archived and retrievable by said client application.

1 17. The computerized system as claimed in claim 1, wherein said client  
2 application communicates with an intelligent agent.

1 18. The computerized system as claimed in claim 17, wherein said client  
2 application stores selected information regarding said individualized bill and said intelligent  
3 agent includes a software program for analyzing said selected information and making  
4 suggestions thereto.

1 19. The computerized system as claimed in claim 18, wherein said software  
2 program makes suggestions with regard to credit products.

1 20. The computerized system as claimed in claim 1, wherein said payment  
2 message includes customer funding account information.

1 21. The computerized system as claimed in claim 20, wherein said customer  
2 funding account information is not resident on said plurality of server applications.

1           22. The computerized system as claimed in claim 20, wherein said customer  
2 funding account information is used to credit a second account at a second biller after said  
3 payment message has been communicated.

1           23. The computerized system as claimed in claim 20, wherein said payment  
2 message includes a second customer funding account information and said customer  
3 funding account information and said second customer funding account information are  
4 used to credit said account.

1           24. The computerized system as claimed in claim 5, wherein said payment  
2 message includes customer funding account information.

1           25. The computerized system as claimed in claim 24, wherein said customer  
2 funding account information is not resident on said payment server application.

1           26. The computerized system as claimed in claim 24, wherein said customer  
2 funding account information is used to credit a second account at a second biller after said  
3 payment message has been communicated.

1           27. The computerized system as claimed in claim 24, wherein said payment  
2 message includes a second customer funding account information and said customer  
3 funding account information and said second customer funding account information are  
4 used to credit said account.

1           28. The computerized system as claimed in claim 1, wherein a second  
2 plurality of billers do not include a server application having bill detail information specific  
3 to said customer, said client application transmitting a sign-up request message to at least a  
4 selected biller from said second plurality of billers.

1           29. A computerized method of presenting billing information from a  
2 plurality of billers to a customer and transmitting payment instructions from said customer,  
3 said method comprising the steps of:

4           a) providing a plurality of server applications at a plurality of billers, said  
5 plurality of server applications including bill detail information specific to a customer;

6                   b) providing a client application in communication with said plurality of  
7 server applications, said client application operable by said customer and including  
8 customer profile information;

9                   c) generating a bill request directed to a selected biller of said plurality of  
10 billers, said bill request including said customer profile information associated with said  
11 selected biller, said selected biller having a selected server application.

12                  d) communicating said bill request from said client application to said  
13 selected server application;

14                  e) processing said bill request and generating an individualized bill specific  
15 to said customer from said bill detail information at said selected biller;

16                  f) communicating said individualized bill from said selected server  
17 application to said client application;

18                  g) presenting said individualized bill to said customer at said client  
19 application;

20                  h) receiving payment instructions from said customer at said client  
21 application;

22                  i) communicating a payment message in response to said payment  
23 instructions from said client application to a predetermined location; and

24                  j) crediting an account at said selected biller after said payment message has  
25 been communicated.

1                   30. The computerized method as claimed in claim 29, wherein said client  
2 application communicates with said plurality of server applications through a global  
3 computer network.

1                   31. The computerized method as claimed in claim 29, wherein said client  
2 application is software on a personal computing platform of said customer.

1           32. The computerized method as claimed in claim 29, further comprising the  
2 step of communicating a more detailed individualized bill to said customer in response to a  
3 request from said customer.

1           33. The computerized method as claimed in claim 29, wherein said  
2 predetermined location includes a bill payment server.

1           34. The computerized method as claimed in claim 29, wherein said bill  
2 detail information includes at least one of a total payment due, a minimum payment due, a  
3 payment due date, an itemized transaction amount and an itemized transaction date.

1           35. The computerized method as claimed in claim 29, wherein said customer  
2 profile information includes at least one of a customer name, a customer address, a  
3 customer identification and an account number associated with said selected biller.

1           36. The computerized method as claimed in claim 29, wherein said  
2 individualized bill is presented to said customer in summary form.

1           37. The computerized method as claimed in claim 32, wherein additional  
2 individualized bills from other selected billers are presented to said customer.

1           38. The computerized method as claimed in claim 29, wherein said payment  
2 instructions include at least one of a payment in full, a minimum payment, a partial  
3 payment, a pre-payment, a scheduled date for payment and a periodic payment.

1           39. The computerized method as claimed in claim 29, further comprising the  
2 step of storing selected information regarding said individualized bill at said client  
3 application.

1           40. The computerized method as claimed in claim 39, wherein said stored  
2 selected information is in summary form.

1           41. The computerized method as claimed in claim 39, wherein said stored  
2 selected information is in detail form.



1                   42. The computerized method as claimed in claim 39, further comprising the  
2 steps of archiving said selected information at said client application, and retrieving said  
3 archived information.

1                   43. The computerized method as claimed in claim 29, wherein said client  
2 application communicates with an intelligent agent.

1                   44. The computerized method as claimed in claim 43, further comprising the  
2 step of storing selected information regarding said individualized bill at said client  
3 application and said intelligent agent includes a software program for analyzing said  
4 selected information and making suggestions thereto.

1                   45. The computerized method as claimed in claim 44, wherein said software  
2 program makes suggestions with regard to credit products.

1                   46. The computerized method as claimed in claim 29, wherein said payment  
2 message includes customer funding account information.

1                   47. The computerized method as claimed in claim 46, wherein said customer  
2 funding account information is not resident on said plurality of server applications.

1                   48. The computerized method as claimed in claim 46, wherein said customer  
2 funding account information is used in crediting a second account at a second biller after  
3 said payment message has been communicated.

1                   49. The computerized method as claimed in claim 46, wherein said payment  
2 message includes a second customer funding account information and said customer  
3 funding account information and said second customer funding account information are  
4 used in crediting said account.

1                   50. The computerized method as claimed in claim 33, wherein said payment  
2 message includes customer funding account information.

1                   51. The computerized method as claimed in claim 50, wherein said customer  
2 funding account information is not resident on said bill payment server.

1                   52. The computerized method as claimed in claim 50, wherein said customer  
2 funding account information is used in crediting a second account at a second biller after  
3 said payment message has been communicated.

1                   53. The computerized method as claimed in claim 50, wherein said payment  
2 message includes a second customer funding account information and said customer  
3 funding account information and said second customer funding account information are  
4 used in crediting said account.

1                   54. The computerized method as claimed in claim 29, wherein a second  
2 plurality of billers do not include a server application having bill detail information specific  
3 to said customer, further comprising the step of transmitting a sign-up request message  
4 from said client application to at least a selected biller from said second plurality of billers.

1                   55. A computerized system for presenting targeted content information from  
2 a plurality of content providers to a user and communicating responsive instructions from  
3 said user, said system comprising:

4                   a) a plurality of server applications at a plurality of content providers, said  
5 plurality of server applications including targeted content information specific to a user;

6                   b) a client application in communication with said plurality of server  
7 applications, said client application operable by said user and including user profile  
8 information;

9                   c) a content request directed to a selected content provider of said plurality  
10 of content providers, said content request including said user profile information associated  
11 with said selected content provider, said selected content provider having a selected server  
12 application;

13                   d) said client application communicating said content request to said selected  
14 server application;

15 e) said content request being processed and generating an individualized  
16 document in response thereto specific to said user from said targeted content information at  
17 said selected content provider;

18 f) said selected server application communicating said individualized  
19 document to said client application;

20 g) said client application presenting said individualized document to said  
21 user;

22 h) said client application receiving responsive instructions from said user;

23 i) said client application communicating a message in response to said  
24 responsive instructions to a designated location; and

25 j) said message being received at said designated location and action being  
26 taken in accordance with said message.

1 56. The computerized system as claimed in claim 55, wherein said client  
2 application is resident on a personal computing platform of said user.

1 57. The computerized system as claimed in claim 55, wherein said  
2 communications among said client application, server applications and designated location  
3 occur through a global computer network.

1 58. The computerized system as claimed in claim 57, wherein said global  
2 computer network is the Internet.

1 59. The computerized system as claimed in claim 55, wherein said  
2 designated location is said selected server application.

1 60. The computerized system as claimed in claim 55, wherein said targeted  
2 content information includes at least one of an account statement, a voting proxy request,  
3 an insurance policy proposal and a loan proposal.

1           61. The computerized system as claimed in claim 55, wherein said user  
2 profile information includes at least one of a user name, a user address, a user  
3 identification and an identification number associated with said one content provider.

1           62. The computerized system as claimed in claim 55, wherein said  
2 individualized document is presented to said user in summary form.

1           63. The computerized system as claimed in claim 62, wherein additional  
2 individualized documents from other selected content providers are presented to said user.

1           64. The computerized system as claimed in claim 55, wherein said message  
2 includes at least one of a credit transaction, a debit transaction, a shareholder vote proxy,  
3 acceptance of an insurance policy and acceptance of a loan.

1           65. The computerized system as claimed in claim 55, wherein said client  
2 application stores selected information regarding said individualized document.

1           66. The computerized system as claimed in claim 65, wherein said selected  
2 information is in summary form.

1           67. The computerized system as claimed in claim 65, wherein said selected  
2 information is in detail form.

1           68. The computerized system as claimed in claim 65, wherein said selected  
2 information is archived and retrievable by said client application.

1           69. The computerized system as claimed in claim 55, wherein said client  
2 application communicates with an intelligent agent.

1           70. The computerized system as claimed in claim 69, wherein said client  
2 application stores selected information regarding said individualized document and said  
3 intelligent agent includes a software program for analyzing said selected information and  
4 making suggestions thereto.

1                   71. The computerized system as claimed in claim 70, wherein said software  
2 program makes suggestions with regard to a document related to said individualized  
3 document.

1                   72. The computerized system as claimed in claim 55, wherein said message  
2 includes customer funding account information.

1                   73. The computerized system as claimed in claim 72, wherein said customer  
2 funding account information is not resident on said plurality of server applications.

1                   74. A computerized method of presenting targeted content information from  
2 a plurality of content providers to a user and communicating responsive instructions from  
3 said user, said method comprising the steps of:

4                   a) providing a plurality of server applications at a plurality of content  
5 providers, said plurality of server applications including targeted content information  
6 specific to a user;

7                   b) providing a client application in communication with said plurality of  
8 server applications, said client application operable by said user and including user profile  
9 information;

10                  c) generating a content request directed to a selected content provider of said  
11 plurality of content providers, said content request including said user profile information  
12 associated with said selected content provider, said selected content provider having a  
13 selected server application;

14                  d) communicating said content request from said client application to said  
15 selected server application;

16                  e) processing said content request and generating an individualized document  
17 specific to said user from said targeted content information at said selected content  
18 provider;

19 f) communicating said individualized document from said selected server  
20 application to said client application;

21 g) presenting said individualized document to said user at said client  
22 application;

23 h) receiving responsive instructions from said user at said client application;

24 i) communicating a message in response to said responsive instructions from  
25 said client application to a designated location; and

26 j) acting in accordance with said responsive instructions.

1 75. The computerized method as claimed in claim 74, wherein said targeted  
2 content information includes at least one of an account statement, a voting proxy request,  
3 an insurance policy proposal and a loan proposal.

1 76. The computerized method as claimed in claim 74, wherein said user  
2 profile information includes at least one of a user name, a user address, a user  
3 identification and an identification number associated with said selected content provider.

1 77. The computerized method as claimed in claim 74, wherein said  
2 individualized document is presented to said user in summary form.

1 78. The computerized method as claimed in claim 74, wherein additional  
2 content from other selected content providers is presented to said user.

1 79. The computerized method as claimed in claim 74, wherein said  
2 responsive instructions include at least one of a credit transaction, a debit transaction, a  
3 shareholder vote proxy, acceptance of an insurance policy and acceptance of a loan.

1 80. The computerized method as claimed in claim 74, wherein said  
2 individualized document is communicated from said selected server application to said  
3 client application over a global computer network.

1           81. The computerized method as claimed in claim 80, wherein said  
2 responsive instructions from said client application are transmitted over a global computer  
3 network.

1           82. The computerized method as claimed in claim 74, further comprising the  
2 step of storing selected information regarding said individualized document at said client  
3 application.

1           83. The computerized method as claimed in claim 82, wherein said selected  
2 information is in summary form.

1           84. The computerized method as claimed in claim 82, wherein said selected  
2 information is in detail form.

1           85. The computerized method as claimed in claim 82, further comprising the  
2 steps of archiving said selected information at said client application, and retrieving said  
3 archived information.

1           86. The computerized method as claimed in claim 74, wherein said client  
2 application communicates with an intelligent agent.

1           87. The computerized method as claimed in claim 86, further comprising the  
2 step of storing selected information regarding said individualized document at said client  
3 application and said intelligent agent includes a software program for analyzing said  
4 selected information and making suggestions thereto.

1           88. The computerized method as claimed in claim 87, wherein said software  
2 program makes suggestions with regard to a document related to said individualized  
3 document.

1           89. The computerized method as claimed in claim 74, wherein said message  
2 includes customer funding account information.

1           90. The computerized system as claimed in claim 87, wherein said customer  
2 funding account information is not resident on said plurality of server applications.

1 / 5

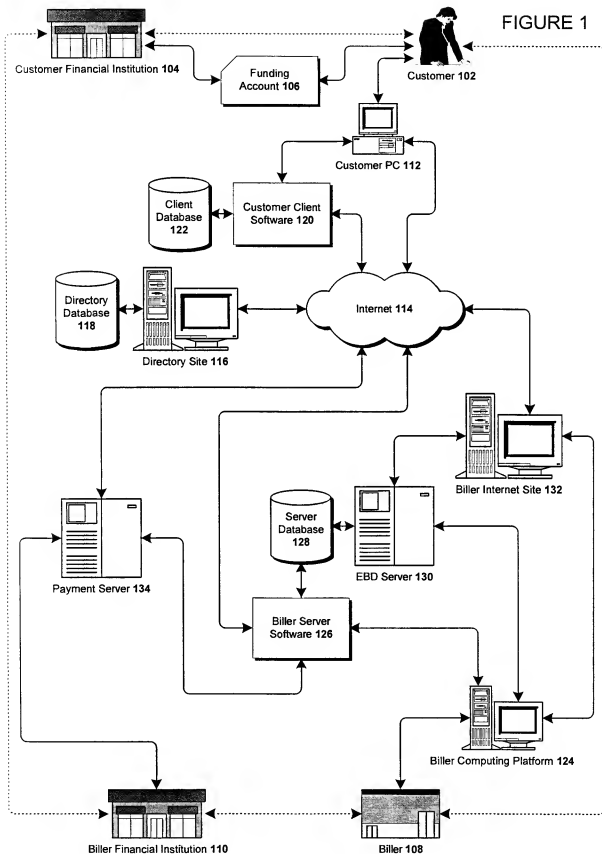




FIGURE 2

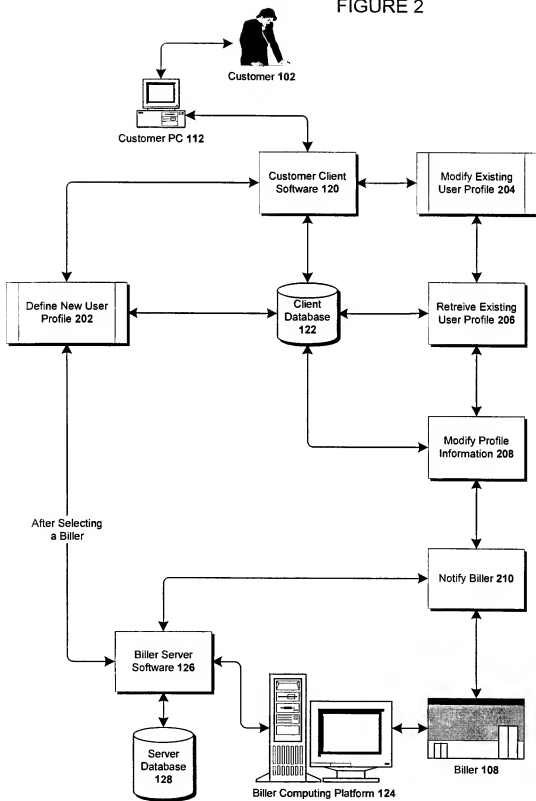




FIGURE 4

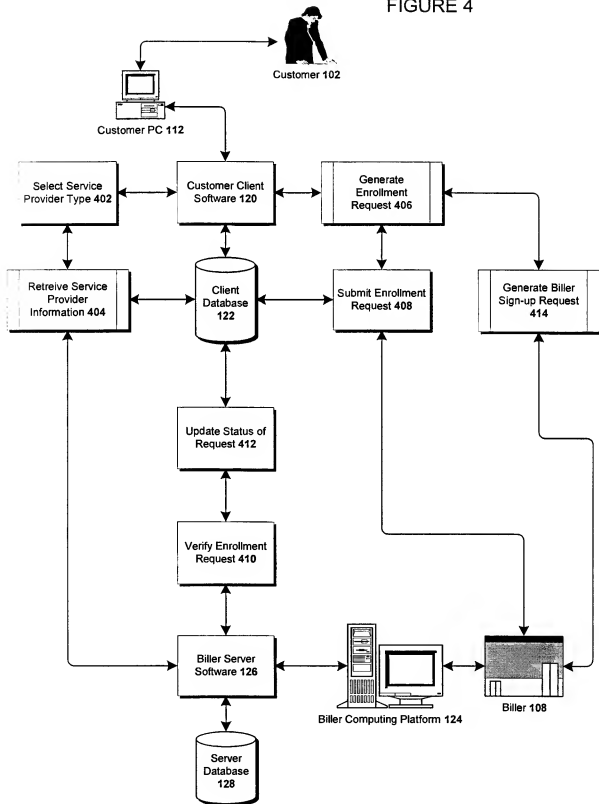


FIGURE 5

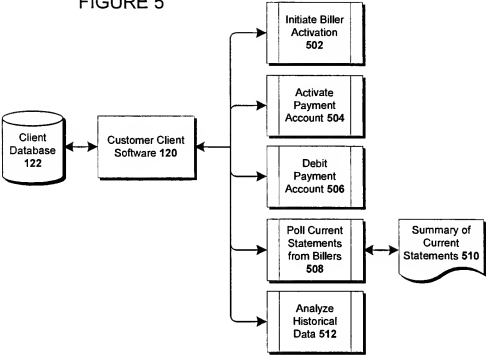
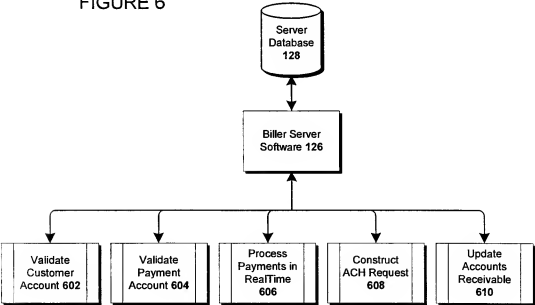


FIGURE 6



## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US00/16567

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G06F 17/60  
US CL : 705/40

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 705/40

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
WEST, INTERNET  
BILL, PAYMENT, ELECTRONIC, PROFILE, QUICKEN, MICROSOFT MONEY

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5884288 A (CHANG ET AL.) 16 MARCH 1999, col. 5 line 1 to col. 10 line 56.	1-16, 20-42, 46-69, 72-85, 89,90
X	Electronic Bill Payment/Presentment Business Practices, InteroperaBill Initiative of the Banking Industry Technology Secretariat (BITS) pages 5-18	1-16, 20-42, 46-69, 72-85, 89, 90.
Y	US 5,903,881 A (SCHRADER et al.) 11 May 1999, col. 7 line 59 to col. 12 line 26	17-19, 43-45, 70-71, 86-88
Y	US 5,893,080 A (MCGURL et al.) 06 April 1999, col. 1 line 58 to col. 6 line 52	17-19, 43-45, 70,71, 86-88

☒ Further documents are listed in the continuation of Box C.
 ☐ See patent family annex.

* Special categories of cited documents	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
*A* document defining the general state of the art which is not considered to be of particular relevance	
*E* earlier document published on or after the international filing date	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
*L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
*O* document referring to an oral disclosure, use, exhibition or other means	
*P* document published prior to the international filing date but later than the priority date claimed	*A* document member of the same patent family

Date of the actual completion of the international search

07 SEPTEMBER 2000

Date of mailing of the international search report

03 OCT 2000

Name and mailing address of the ISA/US  
Commissioner of Patents and Trademarks  
Box PCT  
Washington, D.C. 20231  
Facsimile No. (703) 305-3230

Authorized officer

JAMES TRAMME *James R. Matthews*  
Telephone No. (703) 305-9768

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US00/16567

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y,P	US 5,920,848 A (SCHUTZER et al.) 06 July 1999, col. 7 line 65 to col. 10 line 61	17-19, 43-45, 70, 71, 86-88
X	US 5,832,460 A (BEDNAR ET AL.) 03 November 1998, col. 2 line 48 to col. 4 line 46.	1-16, 20-42, 46-69, 72-85, 89, 90.
X,E	US 6,078,907 A (LAMM) 20 June 2000, whole document.	1-90
X, P	US 5,943,656 A (CROOKS et al.) 24 August 1999, whole document	1-16, 20-42, 46-69, 72-85, 89, 90